

REMARKS

Claims 3, 10, 13 and 15 currently appear in this application. The Office Action of March 14, 2008, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

The Amendment

Claim 10 has been amended to recite chemical formula 2, namely, O- α -D-Glcp-(1 \rightarrow 6)-O- α -D-Glcp-(1 \rightarrow 3)O- α -D-Glcp-(1 \rightarrow 1)- α -D-Glcp. It is believed that this makes claim 10 definite. Claim 11 has been cancelled.

Art Rejections

Claim 3 is rejected under 35 U.S.C. 103(a) as obvious over Maruta et al., US 6,017,899 in view of Kubota et al., WO 01/090338. The Examiner states that even though Maruta does not disclose 3- α -glucosyl α,α -trehalose, Maruta teaches enzymatic hydrolysis by glucoamylase to generate α -glucosyl α,α trehalose (PI) and α -maltosyl α,α -trehalose (PII). The Examiner further states that Kubota teaches 3- α -isomaltosyl α,α -trehalose and that it would have been obvious to combine enzymatic hydrolysis by glucoamylase to generate α -

glucosyl α,α -trehalose from a non-reducing saccharide having a trehalose structure as an end unit disclosed by Maruta with 3- α -glycosyl α,α -trehalose taught by Kubota to obtain 3- α -glucosyl α,α -trehalose of claim 3.

This rejection is respectfully traversed. It is respectfully submitted that Maruta does not teach enzymatic hydrolysis by glucoamylase to generate α -glucosyl α,α -trehalose and α -maltosyl α,α -trehalose. As shown in Table 5 of Maruta, glucoamylase generates neither α -glucosyl α,α -trehalose nor α -maltosyl α,α -trehalose when it is acted on glycosyl trehalose in which the glycosyl residue binds to trehalose via an α -1,4 linkage. Glucoamylase generates only glucose and trehalose when it acts on glucosyl trehalose.

The Examiner cites Maruta at column 19, lines 37-40 to support the Examiner's understanding. However, it is not the case of using glucoamylase, but it is the case of using α -amylase that is recited at column 19, lines 37-40 of Maruta. The term " α -amylase" should be distinguished from "glucoamylase."

Because of this, it would have been difficult for one skilled in the art to obtain 3- α -glucosyl α,α -trehalose of claim 3 with a reasonable expectation of success by treating 3- α -maltosyl α,α -trehalose even if Kubota teaches 3- α -glucosyl α,α -trehalose.

It should be noted that 3- α -glucosyl α,α -trehalose as claimed in claim 3 is a novel saccharide derivative of trehalose which has not previously been disclosed. It is respectfully submitted that 3- α -glucosyl α,α -trehalose could not be obvious over Maruta in view of Kubota. Favorable reconsideration is respectfully solicited.

Claims 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta et al. in view of Kubota et al.

This rejection is respectfully traversed. For the reasons given above, it is respectfully submitted that 3- α -glucosyl α,α -trehalose is a new compound, and there is nothing in the combination of Maruta and Kubota that makes this compound and compositions containing this compound obvious.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mandai et al., US 5,780,620 in view of Kubota.


As the present amendment cancels claims 11, this rejection is now moot.

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Reply to Office Action of March 14, 2008

In view of the above, it is respectfully submitted
that the claims are now in condition for allowance, and
favorable action thereon is earnestly solicited.

Respectfully submitted,

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